CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE

DEPARTMENT OF HUMAN RESOURCES

Study Guide

Spray Systems Servicer
Written Examination

- This booklet contains SAMPLE QUESTIONS ONLY. Studying this booklet will not necessarily improve your exam score.

PURPOSE AND CONTENT OF THIS STUDY GUIDE

This guide was developed to help you prepare to take the written examination for Spray Systems Servicer. It contains general test-taking advice and also provides specific information related to the exam content. This information includes the subject areas covered by the exam, the kinds of questions to expect, strategies for approaching the questions, and sample questions. Though this information cannot guarantee a higher examination score, it can give you direction for your examination preparation that will assist you in doing your best.

PREPARING TO TAKE THE EXAMINATION

Before the Day of the Exam

- Review this guide to get familiar with the content of the exam. Knowing about the topics and kinds of questions that will be in the exam will ensure that you will not be surprised by the content of the exam or the manner in which it is presented. This can improve your ability to demonstrate your job potential.

- Make sure that you know where the exam will be administered and all of the relevant details, such as where to park, where to report for the exam, and what identification is required.

On the Day of the Exam

- Make sure that you are well rested and have eaten. These things will help your concentration during the exam.

- Plan your day to allow plenty of time to get yourself prepared and get to the exam site. Allow enough time to cope with weather, traffic, parking, etc. Hurrying creates anxiety, so do not put yourself in the position of having to hurry.

- Listen carefully to all instructions from the examination administrator. Make sure that you understand the instructions and carry them out correctly. Ask questions at the proper time before the exam begins if you are unsure of any aspect of what you should do during the exam.

GENERAL EXAM TAKING TIPS

- Use your time carefully. The time limit should provide you with more than enough time if you move through the exam steadily and do not spend too much time on any one question.

- Read the questions and answer choices carefully. Read all of the answer choices before you select an answer.

- If you come to a question that is especially difficult, skip that question and come back to it later if you have time.

- Answer every question. Scores are based on the number of correct answers. You will receive no credit if you leave an answer space blank. It is to your advantage to use your best judgment to make a choice among the answer choices provided.

THE SPRAY SYSTEMS SERVICER WRITTEN EXAMINATION

The written examination for Spray Systems Servicer is based upon a job study that identified the most important knowledge, skills, and abilities required to perform the job successfully. These areas include:

- your knowledge of basic automotive maintenance.
- your knowledge of how to correctly and safely use tools and equipment.
- your skill in interpreting information and solving common workplace dilemmas.
- your knowledge of more advanced automotive maintenance concepts.

All of the exam questions are presented in a multiple-choice format. Each question is identified by a question number that is followed by a question statement. Unless indicated otherwise, there are between two and four answer choices following the question statement. You should read all of the answer choices and then choose the best answer. **Each question has only one correct answer.**

SECTION 1: BASIC MAINTENANCE

This test section contains twenty (20) questions designed to assess your knowledge of basic automotive maintenance concepts. Questions will focus on methods for safely and correctly maintaining vehicle components such as tires, brakes, cooling systems, transmissions, air systems, and interiors. The best way to prepare for the questions in this part of the examination is to review information on how to perform automotive maintenance tasks which can be found in reference manuals, books at your local library, and online resources.

Examples of these types of questions are shown below. Each question is followed by a brief explanation of the correct answer.

1. If you are putting air in an automobile tire and have noted the that the PSI number on the sidewall of the tire is 35 PSI, you should:

    A. fill the tire to exactly 35 PSI because that is the ideal pressure.
    B. fill the tire to 36 PSI because 35 PSI is the minimum safe inflation pressure.
    C. fill the tire to 34 PSI because the tire will reach 35 PSI during operation.
    D. look for the vehicle manufacturer's recommendation for tire pressure before proceeding.

Answer: The correct answer to sample question #1 is response choice "D". The PSI number on the sidewall of a tire is the maximum safe inflation pressure for the tire. Manufacturers' tire pressure recommendations are typically provided in the manual or on a sticker in the door jamb and tend to recommend a lower pressure than the maximum safe inflation pressure. This pressure, usually between 30-32 PSI, is intended to optimize the life and performance of the tire.

2. If the oil that appears on the dipstick when checking the oil level on a vehicle is brown in color, it is most appropriate to:

   A. take no action since that color indicates that the condition of the oil is good.
   B. change the oil immediately, since the oil should always appear yellow or amber in color.
   C. check the vehicle records and manual to determine if the vehicle is due for an oil change.
   D. conduct a thorough inspection of the engine to identify problems or sources of excessive heat.

Answer: The correct answer to sample question #2 is response choice "C". It is important to know the types of fluids used in vehicles, how they should appear, and what differences might indicate. Oil is initially an amber or yellow in color, however, it darkens over time as it is exposed to heat, additives, and contaminants. The darker color by itself does not necessarily indicate that an immediate oil change is necessary. The best indicator of the need for an oil change is typically the maintenance interval recommended by the vehicle's manufacturer.

3. You are preparing to change the brake fluid in an automobile. You have opened the hood and located the master cylinder reservoir. What should you do next?

   A. Open the master cylinder cap.
   B. Use a soft brush to clean the master cylinder cap.
   C. Wipe off the master cylinder cap with a clean rag.
   D. Apply a degreasing agent to the master cylinder cap.

Answer: The correct answer to sample question #3 is response choice "C". When changing brake fluid, it is recommended that the master cylinder cap be wiped off with a clean rag in to prevent dirt or dust from getting inside while removing the cap.

SECTION 2: TOOLS AND EQUIPMENT

This examination section contains twenty (20) questions designed to assess your knowledge of how to correctly and safely use tools and equipment used in automotive maintenance such as wrenches, jacks, drills, and compressed air. The best way to prepare for questions of this type is to review information on tools and equipment used to perform automotive maintenance tasks which can be found in reference manuals, books at your local library, and online resources.

Examples of the types of questions in this examination section are shown below. Each question is followed by a brief explanation of the correct answer.

4. The primary function of an impact wrench is to provide:

   A. grip.
   B. torque.
   C. precision.
   D. accessibility.

Answer: The correct answer to sample question #4 is response choice “B”. An impact wrench is a socket wrench power tool that is designed to deliver high torque output with minimal exertion.

5. If you are using a floor jack to raise a vehicle, it is best to do which of the following?

   A. Also use both wheel chocks and jack stands.
   B. Use wheel chocks only if the rear of the vehicle is being lifted.
   C. Use wheel chocks and jack stands only if the vehicle is being raised on an uneven surface.
   D. Do not use any additional equipment since it may interfere with properly placed jack stands.

Answer: The correct answer to sample question #5 is response choice “A”. Maintaining safety is always a primary concern. Any operations that involve lifting and working under a vehicle pose great risk and, therefore, require maximum safety precautions. The wheel chocks prevent any unintentional rolling which helps to ensure the stability of the jack stands.

6. The adjustable mechanism of a drill that allows you to attach and tighten the drill bit is referred to as the:

   A. chuck.
   B. clamp.
   C. shank.
   D. fastener.

Answer: The correct answer to sample question #6 is response choice "A". It is important to be familiar with tools used in automotive maintenance including their components and how to use them. The part of the drill that allows you to attach and tighten the drill bit is referred to as the chuck.

SECTION 3: PROBLEM SOLVING

This part of the examination contains twenty (20) questions that assess your skill in performing problem solving tasks related to maintenance work. Such problem solving includes resolving customer problems, interpreting information from manuals and charts, and performing basic calculations.

Some questions will describe a situation and then ask you to select the most effective response given the circumstances. For this type of question, it is important to focus on the objective of the situation and the role of a Spray Systems Servicer. For example, for questions that involve customer problems, you should visualize the situation, consider what the ideal outcome might be, and think about how each of the suggested actions might influence the outcome.

Some questions will require you to perform basic calculations such as addition, subtraction, and multiplication which is used on the job for tasks such as calculating mileage and determining the correct amount of fluid to add to reach specified capacities. For these questions, it is most important that you are certain you understand exactly what is being asked and that you use the information provided correctly when setting up your calculations. It is also beneficial to double check your work by making sure that you have used the correct numbers and have performed calculations correctly.
Some questions will provide you with information similar to that which is used on the job such as safety rules, repair manuals, and maintenance charts. You will be asked to review the information and then answer questions using the information.

A good strategy to use for this type of question is to read through the entire chart or passage, then read each of the questions, and finally refer to the information as you answer each question. When reading each question, determine what information the question is specifically looking for by carefully considering each of the words used to convey meaning. For example, does the question ask about a cause or effect? Does it ask you to identify the correct method or sequence for performing tasks?

It is important that you select your answers solely based upon the information provided. The test questions are designed to assess your ability to correctly interpret what is provided, not to assess your knowledge of the subject area addressed by the reading passage.

Examples of the types of questions in this exam section are shown below. Each question is followed by a brief explanation of the correct answer.

7. A vehicle is not ready when expected because a more complicated problem was discovered during routine maintenance. The customer is frustrated by the delay and has become angry. While interacting with the customer, you should focus on being:

   A. correct.
   B. patient.
   C. optimistic.
   D. respected.

Answer: The correct answer to sample question #7 is response choice “B”. When interacting with a frustrated or angry customer, it is important to attempt to de-escalate rather than inflame the situation. Remaining patient is most likely to do this because it will allow you to think more clearly and will be less likely to provoke more anger from the customer. Emphasizing that you are right or on being respected places the focus on yourself at a time when focusing on the customer is more productive. Being too optimistic may be perceived by the customer as a failure to understand his/her problem or concerns.

Instructions: Use the information below to answer sample question #8.

Timing Belt Specification Chart

Type	Pitch	Tooth Height	Thickness
MR	8.00	3.62	4.50
MY	8.00	4.10	5.30
SM1	9.00	4.10	5.70
SM2	9.00	4.50	5.30
ZA	9.53	4.62	5.10
ZB	9.53	4.50	5.70

8. Based on the information shown in the chart, what type of timing belt should you select if your specifications indicate that a vehicle requires a timing belt that has a tooth height of 4.10 and a thickness of 5.30?

   A. MR
   B. MY
   C. SM1
   D. ZA

Answer: The correct answer to sample question #8 is response choice “B”. Information related to vehicles such as part numbers, tire pressure recommendations, and fluid levels is often provided in charts, so it is important to be able to interpret them correctly. In this case, the answer is found by first looking for the correct number in the Tooth Height column (4.10). Since there are two matches, you must then look to the right at the Thickness column. There you will see that the second row shows the specified thickness of 5.30. Following the row to the far left column then shows the correct timing belt type which is designated as MY as shown in response choice “B”.

9. You checked a vehicle's oil level and determined that it currently has 3.6 quarts. If the recommended oil capacity is 5 quarts, how much oil should be added?

   A. 1.2 quarts.
   B. 1.4 quarts.
   C. 2.2 quarts.
   D. 2.4 quarts.

Answer: The correct answer to sample question #9 is response choice "B". The amount of oil needed is calculated by subtracting the current amount of oil (3.6 quarts) from the desired amount (5.0 quarts). Therefore, the calculation is: 5.0 quarts - 3.6 quarts = 1.4 quarts.

Instructions: Use the information below to answer sample question #10.

Using Acetone to Clean Automotive Parts

Acetone is commonly used as a cleaning solvent in automotive maintenance due to its effectiveness in removing oil and grease. It has been classified as a highly flammable liquid which means that in normal working conditions its vapors exist in high enough concentrations to ignite with a spark. Therefore, it is important to limit the quantity on hand both in the amount stored and the amount used for specific tasks and keep work areas well ventilated. You should also make sure that ignition sources such as tools or activities that may produce sparks or heat are kept away from areas where acetone is being stored or used.

10. According to the reading passage, which of the following activities would present the greatest potential hazard when using acetone to clean automotive parts?

    A. Having a dusty workshop area.
    B. Having a fan blowing in the workshop.
    C. Using an electric tool in the immediate area.
    D. Using a wide mouthed container for cleaning.

Answer: The correct answer to sample question #10 is response choice "C". The focus of the reading passage is fire hazard due to ignition of vapors. The last sentence of the reading passage states that tools or activities that produce sparks or heat should kept away from areas where acetone is being used. Of the response choices provided, an electric tool has the greatest potential to produce a spark or heat.

SECTION 4: ADVANCED MAINTENANCE CONCEPTS

This part of the examination contains twenty (20) questions that assess your knowledge of more advanced automotive maintenance concepts. Question content will focus on more complex automotive components involving brake, electrical, and mechanical systems. The best way to prepare for the questions in this part of the examination is to review information on how to perform automotive maintenance tasks which can be found in reference manuals, books at your local library, and online resources.

Examples of the types of questions in this examination section are shown below. Each question is followed by a brief explanation of the correct answer.

11. Which of the following is accurate with regard to a floating brake caliper assembly?

    A. It will have a single piston.
    B. It will have multiple pistons.
    C. It may have a single or multiple piston design.
    D. It will be firmly attached to the steering knuckle and spindle.

Answer: The correct answer to sample question #11 is response choice "A". Disc brake calipers are either fixed or floating in design. The floating design is characterized by a single-piston, floating caliper assembly that moves in relation to the wheel spindle. A fixed design is characterized by an assembly that is firmly attached to the steering knuckle and spindle where multiple pistons do the work of aligning the pads with either side of the disc rotor.

12. In a multigrade oil with a rating of 10W-30, the “30" refers to the:

    A. mileage rating.
    B. synthetic blend.
    C. cold weather viscosity.
    D. viscosity at normal operating temperature.

Answer: The correct answer to sample question #12 is response choice “D”. The numerical code system established by the Society of Automotive Engineers (SAE) grades motor oils according to their viscosity characteristics. Because viscosity changes with temperature, multigrade oils provide protection across a range of temperatures. The number before the “W” indicates the viscosity at low temperatures (the “W” stands for “Winter”) and the number that follows the “W” indicates the viscosity at a normal operating temperature.

13. You are using a digital multimeter to measure the DC voltage of a car battery. If the red and black probes are switched instead of being placed in the correct locations, which of the following is most likely to occur?

    A. The device will fail to operate.
    B. There will be no difference in the reading.
    C. A numerical reading will appear, but it will be incorrect.
    D. The reading will have the correct numerical value, but it will be negative.

Answer: The correct answer to sample question #13 is response choice “D”. Multimeters have a red probe and a black probe. When measuring DC, the red probe should be connected to the positive port. If the probes are reversed on a digital meter, the meter will simply read “backwards” meaning that a “-“ sign will appear in front of the numbers indicating a negative voltage.

ADDITIONAL ASSISTANCE

If you feel that you would benefit from more practice, your local library or relevant internet web sites may have reference materials that can be helpful. This is true for all of the subject areas covered by the Spray Systems Servicer written examination.